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EXAMINER
PHILPOTT, JUSTIN M

ART UNIT	PAPER NUMBER
2665	8

DATE MAILED: 05/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/461,625	GARNEY ET AL.	
	Examiner	Art Unit	
	Justin M Philpott	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *10 March 2003* is: a)☐ approved b)☒ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. In the Amendment filed March 4, 2003 and the Supplemental Amendment filed March 10, 2003, Applicant has amended the specification, provided a proposed drawing correction, and argued that claims 1-41 as originally filed should be allowable. In view of the amendment, the specification is no longer objected to. The proposed drawing correction, however, is objected to for reasons cited in the following action. Claims 1-41 remain rejected.

Response to Arguments

2. Applicant's arguments, see pages 5-6, filed March 4, 2003, with respect to claim 1 and Sauer have been fully considered and are persuasive. The rejection of claims 1-3 under 35 U.S.C. 102(e) as being anticipated by Sauer has been withdrawn.

3. Applicant's arguments, see pages 6-7, filed March 4, 2003, with respect to claim 1 and Ajanovic have been fully considered but they are not persuasive.

Applicant argues that Ajanovic fails to teach or suggest performing the first transaction at a second time. Specifically, Applicant argues that the Request packet of Ajanovic is not the same transaction as the Completion packet, and therefore, Ajanovic fails to teach the first transaction at a first time and the first transaction at a second time as recited in claim 1. However, in the instant application, Applicant defines the first transaction at a first time as a "transaction ... in which a transfer request is communicated to the hub" (page 17, lines 6-8), and

defines the first transaction at a second time as a "transaction ... to get the result (e.g., data or handshake sent from the peripheral to the hub) of the transfer performed between the hub and the legacy peripheral during the classic transaction" (page 17, lines 16-18). According to Applicant's definitions of the transactions, the first transaction at a first time is not the same transaction as the first transaction at a second time. That is, the first transaction at a first time is a transfer request, while the first transaction at a second time is a transaction to obtain, e.g., a data result from another (i.e., classic) transaction. Thus, Applicant's argument that the Request packet of Ajanovic is not the same transaction as the Completion packet is moot. Accordingly, Applicant has not provided sufficient evidence to indicate Ajanovic fails to teach the first transaction at a first time and the first transaction at a second time as recited in claim 1.

Applicant further argues that the Request packet and the Completion packet operate in opposite directions and, thus, are "completely different" (page 7). However, claim 1 does not recite the limitation that the first transaction at the first time and the first transaction at the second time operate in the same direction. Thus, the argument that the Request packet and Completion packet operate in opposite directions is moot. Moreover, even if Applicant were to amend the claim to include the limitation that both transactions operate in the same direction, Applicant does not provide sufficient evidence which indicates that Ajanovic teaches and requires that the Completion and Request packets operate in opposite directions. That is, the citations made by Applicant (e.g., col. 2, lines 61-67; col. 3, lines 4-9; and claims 6, 24 and 32) do not address the direction of Completion and Request packets, and specifically, do not recite that these packets operate in opposite directions. Conversely, these citations clarify that the Request and Completion packets of Ajanovic operate as the transactions disclosed in the instant

application (although the following limitations are not recited in the claims). For example, Ajanovic teaches a Request phase 304 (e.g., Request packet) is followed by a Completion phase 308 (e.g., Completion packet) wherein a Completion phase 308 is a transaction to obtain, e.g., a data result from another (i.e., read) transaction (e.g., see col. 3, lines 1-9). The instant application also discloses such a Request phase (first transaction at a first time) which is followed by a Completion phase (first transaction at a second time) wherein the Completion phase (first transaction at a second time) is a transaction to obtain, e.g., a data result from another (i.e., classic) transaction (e.g., see page 17, lines 6-18). Thus, Ajanovic clearly teaches a first transaction at a first time and a first transaction at a second time as recited in claim 1. Furthermore, while not relied upon for the rejection of claim 1, Ajanovic additionally teaches a particular transaction at a first time (e.g., arbitration 302, see FIG. 3) is followed by the same particular transaction at a second time (e.g., arbitration 306).

Drawings

4. The proposed drawing correction filed March 10, 2003 is objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "601", "603-605", "607-609" and "611" (in Figure 6); and "709" and "711" (in Figure 7). While the proposed drawing correction has removed these reference signs at one location, they are still included in the figures at the "Template A" and "Template B" locations. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 1-5, 7, 8, 10, 22-26, 28, 29, 31-36, 38, 39 and 41 are rejected under 35 U.S.C. 102(e) as being unpatentable over U.S. Patent No. 6,145,039 to Ajanovic et al.

Regarding claim 1, Ajanovic teaches a method for communicating data between a host (CPU 208, in FIG. 2) and an agent (peripheral device 218, 220, 222, 224 or PCI agents 214) wherein the method comprises performing a first transaction at a first time (request packet on hub link 202, col. 2, line 64 and col. 5, lines 52-60; see also "Request" of first transaction 304 at first time in FIG. 3) between a host controller (204) and a hub (206), performing a second transaction (col. 5, line 62 – col. 6, line 13 regarding request signal of an arbitration protocol; see also "Arbitration" of second transaction 306 in FIG. 3) between the hub (I/O hub) and an agent (peripheral device) based on the first transaction at the first time, and performing the first transaction at a second time (Completion packet, col. 2, line 65; see also "Completion" of first transaction 308 at second time) between the host controller (204) and the hub (206).

Regarding claims 2 and 3, Ajanovic teaches the first transactions at first and second times are performed in accordance with a first split-transaction protocol (col. 2, lines 62-64) and the second transaction is performed in accordance with a second protocol (arbitration protocol, col. 5, line 63).

Regarding claim 4, Ajanovic teaches the method of claim 1 further comprising performing a third transaction between the first transaction at the first time and the first transaction at the second time (col. 3, lines 10-14).

Regarding claims 5 and 8, Ajanovic teaches wherein performing the first transaction at first and second times includes sending from the host controller to the hub a first token packet (see transaction layer, col. 3, lines 61 – col. 4, line 65) including agent identification information (col. 4, lines 55-56) and a transfer indicator (transaction descriptors, col. 3, line 66 – col. 4, line 2) indicating that data needs to be transferred between the host controller and the hub, and transferring a data packet between the host controller and the hub (col. 4, line 2 and also col. 5, lines 23-49).

Regarding claims 7 and 10, Ajanovic teaches sending a data packet from the host controller to the hub during the first transaction at the first time, and sending a data packet from the hub to the host controller during the first transaction at the second time (col. 3, line 61 – col. 4, line 65; see also "Data" of first transaction at first time 304 and first transaction at second time 308 in FIG. 3).

Regarding claim 22, Ajanovic teaches a system described by claim 1 as discussed above, and further teaches repeating the first transaction (request) at a second time (completion) as implemented in the split-transaction protocol (col. 2, line 61 – col. 3, line 9).

Regarding claims 23-25, see the above regarding claims 2-4.

Regarding claims 26 and 29, see the above regarding claims 5 and 8.

Regarding claims 28 and 31, see the above regarding claims 7 and 10.

Regarding claim 32, Ajanovic teaches a system described by claim 1 as discussed above, and further teaches an embodiment (FIG. 4) comprising a first hub controller (within I/O Hub 206, coupled to host controller 204 as in FIG. 2 previously discussed) and a second hub controller (within 2nd I/O Hub in FIG. 4) coupled to the first hub controller and adapted to perform a second transaction with an agent (wherein 2nd I/O Hub functions as I/O Hub 206 of FIG. 2 which is coupled to peripherals 218, 220, 222, 224).

Regarding claims 33-35, see the above regarding claims 2-4.

Regarding claims 36 and 39, see the above regarding claims 5 and 8.

Regarding claims 38 and 41, see the above regarding claims 7 and 10.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 6, 9, 27, 30, 37 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ajanovic in view of U.S. Patent No. 6,389,029 to McAlear

Regarding claims 6, 9, 27, 30, 37 and 40, Ajanovic teaches the methods of claims 5, 8, 26, 29, 36 and 39 as discussed above, however, may not specifically disclose during the first transaction processing by the host controller at least one of an acknowledgement, a handshake indication, or a timeout indication.

McAlear teaches a network incorporating universal serial bus protocol and discloses that it is known in the art of USB device communications to process an acknowledgement (ACK), a

negative handshake acknowledgement (NAK), and a timeout (Stall handshake) during data packet transfer in order to provide efficient communications (col. 5, lines 23-33). Ajanovic specifically discloses USB communications (col. 4, line 57), and thus, at the time of the invention it would have been obvious to one of ordinary skill in the art to include processing an acknowledgement, a handshake indication, or a timeout indication during data packet transfers in order to provide efficient communications.

9. Claims 11-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ajanovic.

Regarding claims 11-13, Ajanovic teaches the method of claim 1 as discussed above as well as teaches a first period of a frame template (comprising packet 304; see FIG. 3), however, may not specifically disclose performing the second period of a frame template (comprising packet 308) in a period that is less than or equal to half of the first period, nor may Ajanovic specifically disclose the template period being particularly greater than or less than the duration of one frame. However, Ajanovic does not limit the first, second, and template periods to a specific size in FIG. 3 by using a clock signal having discontinuities. That is, in the configuration of FIG. 3, the first, second, and template periods may vary in size.

Moreover, it is generally considered to be within the ordinary skill in the art to adjust, vary, select or optimize the parameters or values of any system absent a showing of criticality in a particular recited value. The burden of showing criticality is on Appellant. In re Mason, 87 F.2d 370, 32 USPQ 242 (CCPA 1937); Marconi Wireless Telegraph Co. v. U.S., 320 U.S. 1, 57 USPQ 471 (1943); In re Schneider, 148 F.2d 108, 65 USPQ 129 (CCPA 1945); In re Aller, 220 F.2d 454, 105 USPQ 233 (CCPA 1955); In re Saether, 492 F.2d 849, 181 USPQ 36 (CCPA

1974); In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

Regarding claims 14 and 15, see the above regarding claim 1.

Regarding claims 16-19, see the above regarding claims 11-13 wherein the first frame template comprises packet 304 and the second frame template comprises packet 308. Furthermore, Ajanovic teaches the first and second frame templates are displaced from each other by a time interval (see FIG. 3).

Regarding claims 20 and 21, see the above regarding claim 1.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin M Philpott whose telephone number is 703.305.7357. The examiner can normally be reached on M-F, 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on 703.308.6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9314 for regular communications and 703.872.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.305.4750.

Justin M Philpott

May 6, 2003

HUY D. VU
SUPERVISORY PATENT EXAMINER
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